

REMARKS

Claims 7, 12 and 25 are amended. Claims 7-35 are pending in the application.

Applicant notes the Examiner's indicated allowability of the subject matter of claims 1-6 upon overcoming § 112 rejections. However, claims 1-6 were cancelled in a previous amendment and are no longer pending in the application. Further, no § 112 rejections are presented in the present Action.

Claims 7 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Harada, U.S. Patent No. 5,631,868. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 7 and 9 are allowable over Harada for at least the reason that Harada fails to disclose each and every element in any of those claims.

As amended, independent claim 7 recites feeding a single feed gas stream comprising O₂ and less than or equal to 0.001% N₂ (by volume) through an ozone generator to generate a product gas from the feed gas, the product gas comprising ozone. Claim 7 further recites providing the product gas into a reaction chamber containing a semiconductor substrate. Harada discloses providing a feed gas consisting of oxygen supplemented with nitrogen or oxygen supplemented with CF₄, SF₆ and NF₃ (col. 3, ll. 44-51 and col. 4, ll. 66 through col. 5, ll. 4). Harada further discloses generating ozone from the feed gas and subsequently treating the gas containing ozone to remove various components of gas prior to utilizing the gas in semiconductor processing (col. 3, ll. 52-67 and col. 5, ll. 1-25). Harada does not disclose the claim 7 recited feeding a single feed gas stream through an ozone generator to generate a product gas and providing the product

gas into a reaction chamber containing a semiconductor substrate. Accordingly, independent claim 7 is not anticipated by Harada.

Dependent claim 9 is not anticipated by Harada for at least the reason that it depends from non-anticipated base claim 7.

Dependent claims 8, 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Harada in further view of one of Ury, U.S. Patent No. 4,885,047; De, JP411219926 and Mullee, U.S. Patent No. 6,306,564. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 8, 10 and 11 are allowable over Harada as combined with Ury, De or Mullee for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims.

As indicated above with respect to independent claim 7, Harada does not disclose the recited feeding a single feed gas stream comprising O₂ and less than or equal to 0.001% N₂ through an ozone generator to generate a product gas and providing the product gas into a reaction chamber. Further, Harada does not suggest these recited features and claim 7 is not rendered obvious by Harada. As indicated at page 3 of the present Action, Ury is relied upon as disclosing irradiating a resist while processing with ozone. As indicated at section 5 of the present Action, De is relied upon as disclosing removal of resist with ozone and water vapor. As indicated at section 6 of the present Action, Mullee is relied upon as disclosing removal of resist using ozone and organic

solvent. However, as combined with Harada, the utilization of ozone and irradiation as disclosed by Ury, the removal of resist using ozone and water vapor disclosed by De, and the utilization of ozone and organic solvent disclosed by Mullee does not contribute toward suggesting the claim 7 recited feeding a single feed gas stream comprising O_2 and less than or equal to 0.001% N_2 through an ozone generator to generate a product gas and providing the product gas into a reaction chamber. Accordingly, independent claim 7 is not rendered obvious by the various cited combinations of Harada and Mullee, Ury or De and is allowable over these references. Dependent claims 8, 10 and 11 are allowable over Harada, Mullee, Ury and De for at least the reason that they depend from allowable base claim 7.

Claims 12-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Harada as combined with Mullee. As amended, independent claim 12 recites providing a feed gas consisting essentially of O_2 and from 0% to 0.001% N_2 and in an absence of additionally added gases feeding the feed gas through an ozone generator to generate ozone. The amendment to claim 12 is supported by the specification at, for example, page 4, line 14 through page 5, line 10. As set forth above, Harada discloses generating ozone from a gas containing oxygen supplemented with various additional components. Harada does not disclose or suggest the claim 12 recited generating ozone from a feed gas consisting essentially of O_2 and from 0% to 0.001% N_2 .

Mullee is relied upon as disclosing removal of a photoresist using a combination of ozone and organic solvent. However, the utilization of ozone and an organic solvent as disclosed by Mullee when combined with Harada does not contribute toward suggesting the claim 12 recited providing of a feed gas consisting essentially of O_2 and from 0% to

0.001% N₂ and in an absence of additionally added gases, feeding the feed gas through an ozone generator to generate ozone. Accordingly, independent claim 12 is not rendered obvious by Mullee and Harada and is allowable over these references.

Dependent claims 13-24 are allowable over Harada and Mullee for at least the reason that they depend from allowable base claim 12.

Claims 25-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Harada as combined with Mullee and Ury. As amended, independent claim 25 recites providing a single feed gas stream comprising O₂ and 0% to 0.001% N₂ feeding the single feed gas through an ozone generator to generate a product gas, and providing the product gas within a reaction chamber. As indicated above, Harada does not disclose the recited providing a single feed gas stream comprising O₂ and 0% to 0.001% N₂, feeding the single feed gas stream through an ozone generator to generate a product gas and providing the product gas within a reaction chamber. Ury is indicated as being relied upon as showing removing of resist using ozone and irradiation. Mullee is relied upon as disclosing organic solvents. However, as combined with Harada, the use of organic solvents disclosed by Mullee and the ozone and irradiation disclosed by Ury fail to contribute toward suggesting the claim 25 recited providing a single feed gas stream comprising O₂ and 0% to 0.001% N₂ through an ozone generator to generate a product gas and providing the product gas within a reaction chamber. Accordingly, independent claim 25 is not rendered obvious by the cited combination of Harada, Mullee and Ury and is allowable over these references.

Dependent claims 26-35 are allowable over Harada as combined with Mullee and Ury for at least the reason that they depend from allowable base claim 25.

The claims of the present application stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over U.S. Patent No. 6,740,597. Submitted herewith is applicant's Terminal Disclaimer obviating such rejection. Accordingly, applicant respectfully requests withdrawal of the double patenting rejection in the Examiner's next action.

For the reasons discussed above, pending claims 7-35 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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